

## SUPPLY AND DEMAND ANALYSIS

In order to determine the amount of alternative water sources required to meet projected irrigation demands, a comparison of future urban irrigation supply and demand was made. Irrigation water surpluses and deficits were identified both geographically and temporally in the defined study area and integrate the potential storage options to be identified in the subsequent subtask. The demands developed previously in the memorandum were compared to the existing and projected supplies, including reclaimed water, groundwater, surface water and surface and reclaimed water ASR. The subsequent surplus or deficit is identified for each service area. Tables 15 and 16 present the surplus/deficit summary for each service area. Figures 12 and 13 display the surplus and deficit information derived from this analysis.

A list of potential end users for the RIDS has been determined based on information received from local governments and review of information from the Lee County and Collier County planning departments. This includes existing and planned new golf courses, large green space areas, and future large planned residential developments. Table 17 presents the list of potential users.

Also, a summary of the existing agricultural users within the study area is provided as Attachment G. Nearly 600 MGD is currently utilized for agricultural irrigation during the dry season in the study area. Most of this water is derived from surficial and intermediate aquifer wells.

**Table 15**  
**Surplus/Deficit Analysis – Current**

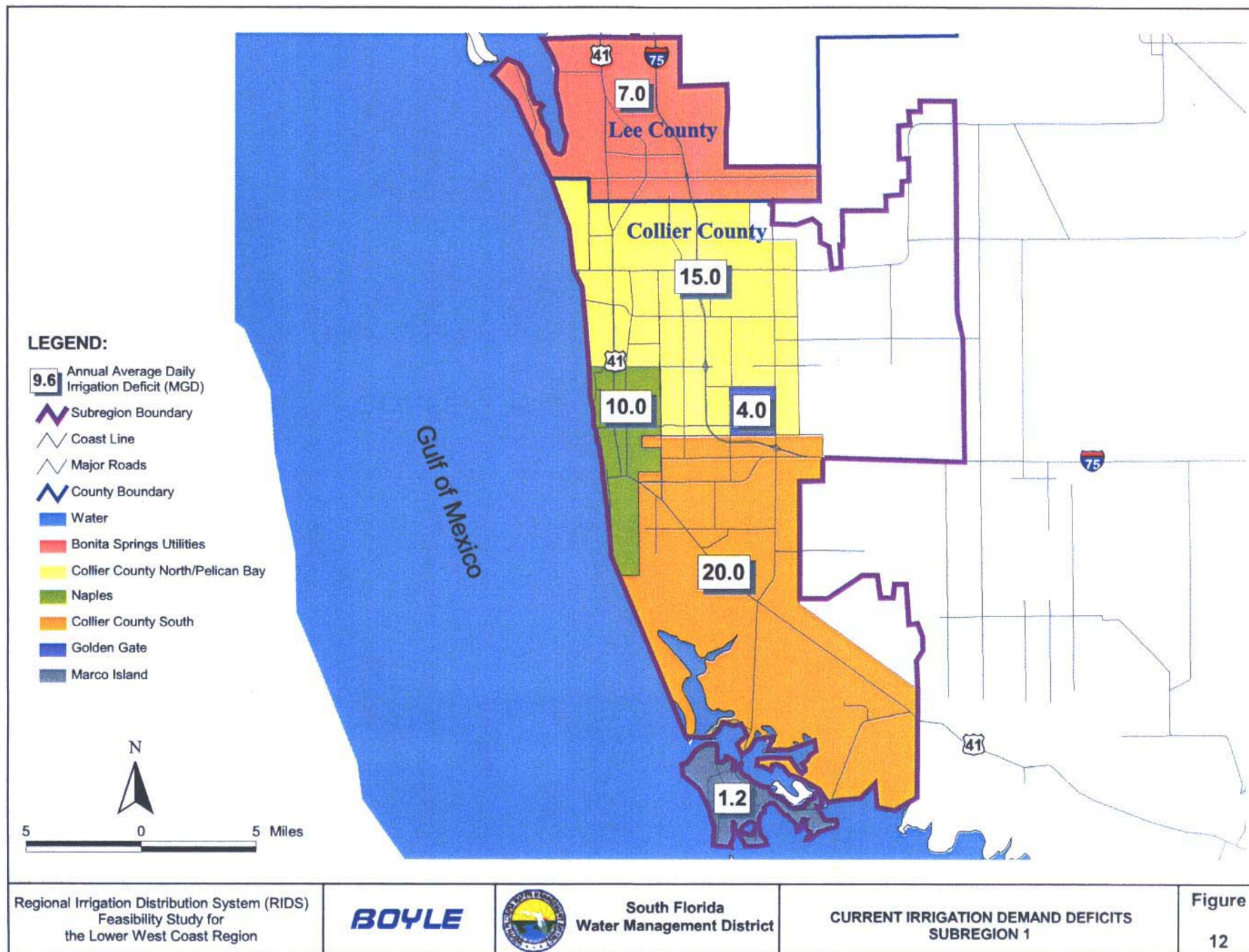
Facility	Monthly Surplus/Deficit (MGD)												Annual Average (MGD)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Collier Co. North	0.10	(2.40)	(17.30)	(26.70)	(29.80)	(28.20)	(14.90)	(15.60)	(17.60)	(12.30)	(11.20)	(4.60)	(15.0)
Collier Co. South	(5.20)	(8.50)	(27.70)	(38.30)	(41.40)	(38.70)	(20.50)	(13.40)	(3.90)	(18.50)	(18.70)	(10.50)	(20.0)
Golden Gate	(0.90)	(1.60)	(4.60)	(6.10)	(6.50)	(6.00)	(4.00)	(3.60)	(6.10)	(3.50)	(3.10)	(1.70)	(4.0)
Marco Island Utilities	1.00	1.20	(0.80)	(2.80)	(2.80)	(2.30)	(1.10)	(0.40)	(4.10)	(1.40)	(1.00)	(0.10)	(1.2)
Naples	(0.10)	(1.90)	(12.40)	(18.60)	(21.10)	(19.30)	(9.60)	(10.30)	(10.40)	(10.30)	(7.60)	(2.90)	(10.0)
Bonita Springs	(1.10)	(1.60)	(8.50)	(12.90)	(14.30)	(10.30)	(5.80)	(7.50)	(7.60)	(6.20)	(5.90)	(2.50)	(7.0)
<b>Total Monthly Flow (MGD)</b>	<b>(6.20)</b>	<b>(14.80)</b>	<b>(71.30)</b>	<b>(105.40)</b>	<b>(115.90)</b>	<b>(104.80)</b>	<b>(55.90)</b>	<b>(50.80)</b>	<b>(49.70)</b>	<b>(52.20)</b>	<b>(47.50)</b>	<b>(22.30)</b>	<b>(58)</b>

Note: Numbers in parenthesis ( ) indicate deficits.

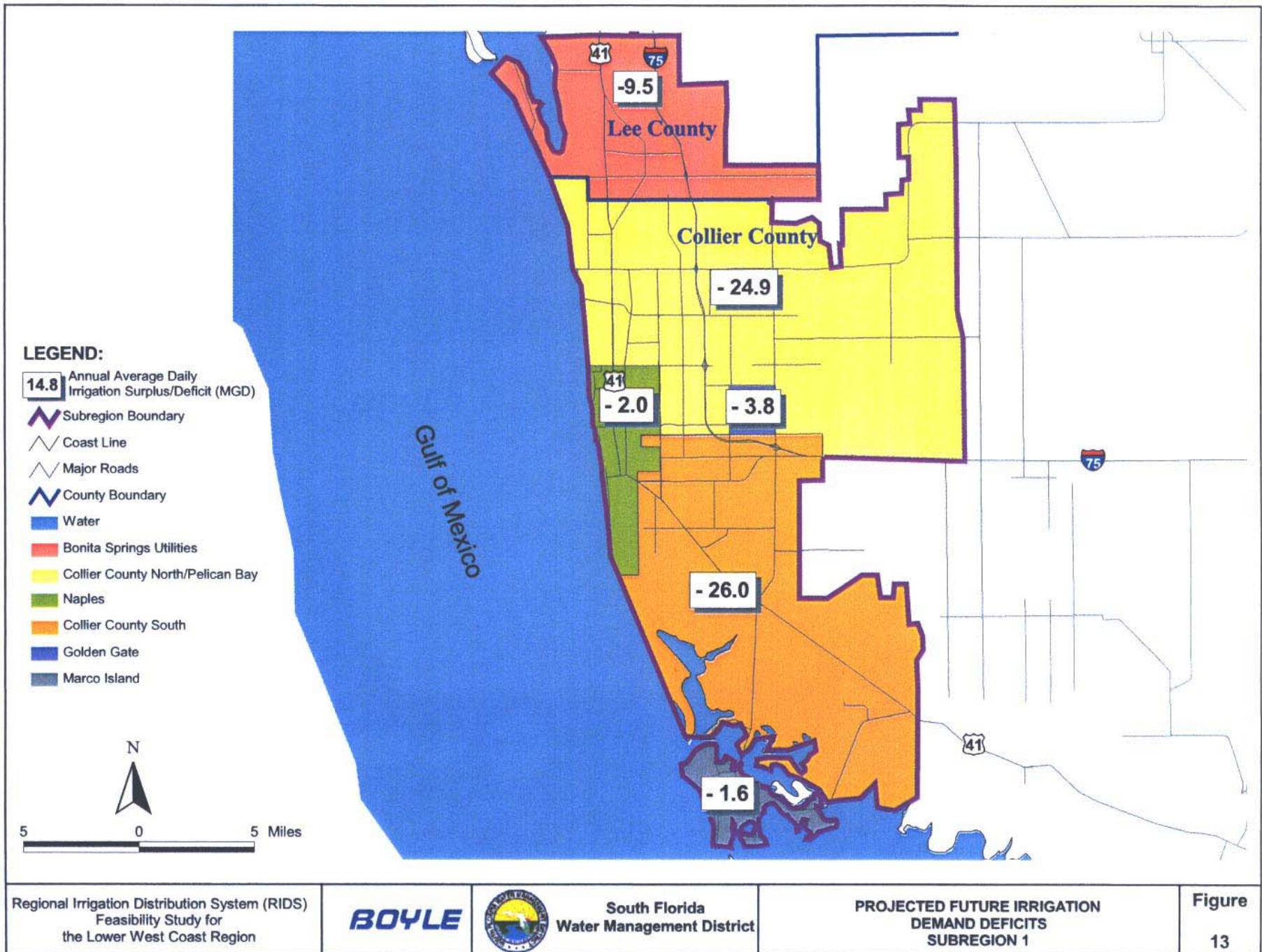
**Table 16**  
**Surplus/Deficit Analysis – Projected Year 2020**

Facility	Monthly Surplus/Deficit (MGD)												Annual Average (MGD)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
<b>Sub-Region 1</b>													
Collier Co. North	(12.0)	(13.4)	(17.4)	(8.3)	0.1	(36.7)	(39.9)	(37.1)	(31.7)	(45.2)	(45.8)	(11.2)	(24.9)
Collier Co. South	(12.8)	(14.3)	(18.7)	(8.9)	0.1	(38.5)	(40.7)	(38.5)	(32.2)	(47.1)	(48.7)	(11.9)	(26.0)
Golden Gate	(1.4)	(1.4)	(1.6)	(1.0)	0.0	(5.2)	(6.6)	(5.9)	(10.0)	(5.7)	(5.6)	(1.3)	(3.8)
Marco Island Utilities	(1.0)	(0.9)	(1.2)	(0.6)	0.0	(1.0)	(1.8)	(1.3)	(2.8)	(3.9)	(4.1)	(1.1)	(1.6)
Naples	(1.6)	(1.8)	(2.3)	(0.9)	0.0	(3.2)	(0.8)	(1.7)	(1.2)	(4.5)	(4.9)	(1.3)	(2.0)
Bonita Springs	(4.1)	(4.3)	(5.8)	(3.0)	0.0	(13.4)	(11.5)	(15.2)	(14.9)	(18.6)	(18.8)	(4.4)	(9.5)
<b>Total Monthly Flow (MGD)</b>	<b>(32.8)</b>	<b>(36.1)</b>	<b>(47.0)</b>	<b>(22.8)</b>	<b>0.3</b>	<b>(98.0)</b>	<b>(101.3)</b>	<b>(99.7)</b>	<b>(92.8)</b>	<b>(125.0)</b>	<b>(127.9)</b>	<b>(31.2)</b>	<b>(67.9)</b>

Note: Numbers in parenthesis ( ) indicate deficits.







**Table 17**  
**Potential Major Irrigation Water Users**

	Potential User	Reuse Demand (MGD)
<b>Sub-Region 1</b>		
<b>Collier Co. North/Pelican Bay</b>		
	Grey Oaks	1.55
	Quail Creek, Quail Village	1.37
	Quail West	1.16
	<b>Subtotal</b>	<b>4.08</b>
<b>Collier Co. South</b>		
	Fiddler's Creek Golf Course	1.61
	Fiddler's Creek Subdivision	1.21
	<b>Subtotal</b>	<b>2.81</b>
<b>Golden Gate</b>	NI	
<b>Marco Island Utilities</b>	NI	
<b>Naples</b>	Small and Bulk Users	7.25
<b>Bonita Springs</b>		
	Brooks of Bonita Springs	4.49
	Gulf Atlantic	1.41
	Pelican Landing	3.17
	Bonita Bay	3.48
	Highland Woods	1.01
	Spanish Wells	1.39
	Bonita Golf Estates	1.12
	Worthington	1.01
	The Parklands	1.74
	Corkscrew Growers	1.72
	<b>Subtotal</b>	<b>20.54</b>
<b>Total Potential Reuse Demand</b>		<b>34.7</b>

\*NI denotes no information